

REMARKS

A Petition and Fee for a Three Month Extension of Time is attached.

An excess claim fee payment letter is submitted herewith for three (3) additional dependent claims.

Claims 1-25 are all the claims presently pending in the application. Claims 1-22 are amended to more clearly define the invention and claims 23-25 have been added. Claim 22 has been withdrawn from prosecution by the Examiner. Claims 1, 14, 19, and 22 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Claims 1-4, 9, 11, 13-14, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Nakagawa reference (U.S. Patent No. 6,083,577). Claims 1-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Watanabe reference (Japan Publication No. 2000-194121).

These rejections are respectfully traversed in the following discussion.

I. THE RESTRICTION REQUIREMENT

The Office Action withdraws claim 22 from prosecution as allegedly being directed to an invention which is independent or distinct from the invention which was originally claimed because: "the product as claimed can be made by another and materially different process, such as process (sic) wherein the pellicle frame is formed so that the entire frame

contacts the reticle.”

Applicant respectfully traverses this restriction requirement.

While the Examiner alleges that claims 1-21 and claim 22 are distinct from each other, the Examiner completely ignores one of the two requirements that the Examiner is required to meet before a restriction may be issued. In this instance, the Examiner has completely failed to allege that the search for claim 22 is a serious burden on the Examiner. Therefore, the Examiner has failed to present a prima facie case for a restriction requirement.

Applicant respectfully submits that the subject matter of all claims 1-8, and 10-22 is sufficiently related that a thorough search for the subject matter of any one group of claims would necessarily encompass a search for the subject matter of the remaining claims. Thus, Applicant respectfully submits that the search and examination of the entire application could be performed without serious burden.

M.P.E.P. § 803 clearly states that “if the search and examination of the entire application can be made without serious burden, the Examiner must examine it on its merits, even though it includes claims to distinct or independent inventions” (emphasis added). Applicant respectfully submits that the Examiner has clearly failed to provide a prima facie showing of a serious burden by failing to provide “by appropriate explanation of separate classification, or separate status in the art, or a different field of search” (M.P.E.P. § 803).

Applicant respectfully submits that the policy requiring examination of an entire application even though the Examiner alleges that it may include distinct inventions, should be applied in the present application in order to avoid unnecessary delay and expense to Applicant and duplicative examination by the Patent Office. Applicant respectfully requests reconsideration and withdrawal of the restriction requirement and to examine all claims in

this application.

Further, since Applicant has elected claims directed to a product and the withdrawn claim is directed to a process that includes all of the limitations of a product claim, should the Examiner find that the claims directed to the product are allowable, Applicant hereby respectfully requests rejoinder and allowance of claim 22 in accordance with M.P.E.P. § 821.04.

Applicant respectfully requests withdrawal of the restriction requirement and/or rejoinder of claim 22.

II. THE CLAIMED INVENTION

A first exemplary embodiment of the claimed invention, as defined by independent claim 1, is directed to a pellicle for protecting a reticle, on which a circuit pattern is formed for manufacturing a semiconductor device, from an attachment of a foreign matter. The pellicle includes a pellicle film, a pellicle frame, and an adhesive. The pellicle frame includes a body part having a frame shape, the height of which is substantially constant, and an upper protruding part on an upper end of the body part that protrudes upward from the upper end of the body part and directly contacting a surface of the pellicle film. The height of the upper protruding part being constant. The adhesive being between the body part and the pellicle film.

A second exemplary embodiment of the claimed invention, as defined by independent claim 14, is directed to a photomask that includes a reticle, a pellicle and an adhesive. The reticle including a circuit pattern for manufacturing a semiconductor device. The pellicle for protecting the reticle from an attachment of a foreign matter. The pellicle includes a pellicle

film, and a pellicle frame. The pellicle frame includes a body part having a frame shape, the height of which is substantially constant, and an upper protruding part on an upper end of the body part that protrudes upward from the upper end of the body part and directly contacting a surface of the pellicle film. The height of the upper protruding part being constant. The adhesive being between the body part and the pellicle film.

A third exemplary embodiment of the claimed invention, as defined by independent claim 19, is directed to a pellicle frame arranged between a reticle, on which a circuit pattern is formed for manufacturing a semiconductor device, and a pellicle film, through which a light transmits to said reticle. The pellicle frame including a first portion directly contacting the pellicle film, an adhesive film contacting the pellicle film, and a second portion contacting the adhesive film.

A fourth exemplary embodiment of the claimed invention, as defined by independent claim 22, is directed to a method for manufacturing a pellicle. The method includes forming a body part having a frame shape such that the height is substantially constant, forming an upper protruding part on an upper end of the body part that protrudes upward from the upper end of the body part, the height of the upper protruding part being constant, forming a lower protruding part on a lower end of the body part that protrudes downward from the lower end of the body part, the height of the lower protruding part being constant, and adhering a pellicle film to the body part such that the upper end of the upper protruding part directly contacts the pellicle film.

It has been very difficult to ensure that the pellicle film in conventional pellicle frames are parallel to the surface of the reticle because these conventional frames are attached to the pellicle film and the reticle using adhesives. Thus, the distance between the pellicle film and

the reticle is not only a factor of the height of the pellicle frame, but also the height of the adhesives. These adhesives exhibit a degree of elasticity which causes the height of the adhesive to vary with the amount of pressure. If the pressure varies across the surface of the pellicle frame, then the height of the adhesive varies and the pellicle film cannot be made parallel to the reticle.

In stark contrast, the pellicle frame of the present invention includes an upper protruding part that extends from the upper surface of the frame and directly contacts the pellicle film and also a lower protruding part that extends from the lower surface of the frame and directly contacts the reticle. In this manner, through the direct contact of the upper protruding part with the pellicle film and the direct contract of the lower protruding part with the reticle, the pellicle film is accurately positioned parallel to the reticle.

III. THE PRIOR ART REJECTIONS

A. The 102(b) Nakagawa reference rejection

Regarding the rejection of claims 1-4, 9, 11, 13-14, and 19, the Examiner alleges that the Nakagawa reference teaches the claimed invention. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by the Nakagawa reference.

The Nakagawa reference does not teach or suggest the features of the present invention including: 1) an upper protruding part formed on an upper end of the body part that protrudes upward from the upper end of the body part that directly contacts the pellicle film (claims 1, 14, and 22); and 2) a first portion directly contacting the pellicle film (claim 19). As explained above, these features are important for accurately positioning the pellicle film

relative to the reticle.

The Examiner appears to allege that the string-like bead 14 disclosed by the Nakagawa reference corresponds to the claimed upper protruding part and first portion. However, the Nakagawa reference clearly explains that the “string-like bead 42 [is] made of adhesives” (emphasis added, abstract). “[A] string-like bead is formed all around an end face at one opening of the frame by linearly applying adhesives or pressure-sensitive adhesives for bonding the periphery of the thin film to the end face” (emphasis added, col 2, lines 33-37; see also col. 2, lines 45-49, lines 50-54, and lines 59-61; col. 3, lines 10 - 13, lines 23-27, lines 38-42, lines 42 - 46, and lines 53-55, col. 4, lines 3-5, lines 10-12, lines 28-32, lines 32-36, lines 42-46, et. seq.)

Therefore, the Nakagawa reference very clearly illustrates that the string-like beads are all made of adhesives.

Thus, the string-like beads of the Nakagawa reference correspond to the adhesive that is recited by independent claims 1, 14, 19, and 22 and do not correspond to the upper protruding part or the first portion of the pellicle frame that directly contacts the pellicle film.

Indeed, the mask protection device that is disclosed by the Nakagawa reference is subject to the same problems that are solved by the present invention. The Nakagawa reference clearly teaches that the adhesive is applied between the pellicle film, the pellicle frame and the reticle. Thus, the distance between the pellicle film and the reticle is based upon the sum of the height of the pellicle frame and the heights of the two layers of adhesives between the pellicle film, the pellicle frame and the reticle. These adhesives exhibit a degree of elasticity which causes the height of the adhesive to vary with the amount of pressure. If the pressure varies across the surface of the pellicle frame, then the height of the adhesive

varies and the pellicle film cannot be made parallel to the reticle.

In stark contrast, the present invention includes not only the adhesive between the pellicle frame, the pellicle film and the reticle to adhere them to each other, but the present invention further includes an upper protruding part (or first portion) that directly contacts the pellicle. This direct contact with the pellicle and the upper protruding part (or first portion) accurately positions the pellicle film relative to the reticle despite the use of adhesive to adhere them together.

Therefore, the Nakagawa reference does not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection of claims 1-4, 9, 11, 13-14, and 19.

B. The 102(b) Watanabe reference rejection

Regarding the rejection of claims 1-21, the Examiner alleges that the Watanabe reference teaches the claimed invention. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by the Watanabe reference.

The Watanabe reference does not teach or suggest the features of the present invention including: 1) an upper protruding part on an upper end of the body part that protrudes upward from the upper end of the body part (claims 1, 14, and 22); and 2) a first portion that directly contacts the pellicle film and also contacts the second portion that is adhered to the pellicle film.

The Examiner alleges that the inner frame 2 that is disclosed by the Watanabe reference corresponds to the claimed upper protruding part and the first portion. While the inner frame 2 disclosed by the Watanabe reference does appear to directly contact the pellicle

film, the inner frame 2 does not protrude upward from the upper end of the body part that corresponds to the outer frame 1 as recited by independent claims 1, 14, and 22.

Further, regarding independent claim 19, while the Examiner appears to allege that the inner frame 2 corresponds to the claimed first portion and that the outer frame 1 corresponds to the claimed second portion, the outer frame 1 does not contact the inner frame 2. Rather, the inner frame 2 is spaced away from the outer frame 1 using a connection material 9. Therefore, the Watanabe reference does not teach or suggest that the second portion contacts the first portion.

Therefore, the Watanabe reference does not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection of claims 1-21.

IV. FORMAL MATTERS AND CONCLUSION

The Office Action objects to claims 20 and 21. This Amendment amends claims 20 and 21 in accordance with Examiner Barreca's very helpful suggestion. Applicant respectfully requests withdrawal of this objection.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 1-22, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

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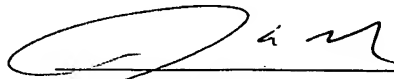
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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: _____

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